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Mini-mesh repair for femoral hernia

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ABSTRACT

INTRODUCTION: Femoral hernia consists only 4% of all primary groin hernias. It is described as “the Bête Noire of Hernias” because of its nature and anatomy which is difficult to understand for the surgeons and tendency to recurrence. Although there is some large series of femoral hernia in the literature, few studies prospectively comparing repair techniques especially for this type of hernia has been published. A new technique named mini-mesh repair is described here.

PRESENTATION OF CASE: After hernia sac is dissected completely and sent back into the preperitoneal space, femoral canal is exposed. A round or oval shaped patch is prepared in 1.5–2.5 cm in diameter according to the size of the femoral canal. Mesh is secured to the Cooper’s ligament with 2/0 polypropylene suture. Eight femoral hernias in 8 patients were repaired with this new technique. Patient satisfaction is very good. One seroma and one limited ecchymosis were recorded. No recurrence was observed in a mean follow-up of 22.4 months. No chronic pain was recorded.

DISCUSSION: Many techniques for femoral hernia repair have been described to date with a variety of clinical outcomes. Each technique has its own advantages and disadvantages. Mesh repairs without tension seems to be better choices. When the transversalis fascia is healthy and strong in a patient with femoral hernia a large piece of mesh may be unnecessary. The simple technique described in this paper can be a good alternative. It is totally problem-oriented, and the burden of prosthetic material is very limited.

CONCLUSION: Mini mesh repair may be a good solution for selected patients with femoral hernia.

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1. Introduction

Femoral hernia consists only 4% of all primary groin hernias.¹ Although there is some large series of femoral hernia in the literature,^{2,3} few studies prospectively comparing repair techniques especially for this type of hernia has been published.^{4,5} McVay’s suture repair for femoral hernia was widespread until 1990s, however newer techniques with prosthetic materials are popular today, including laparoscopic approach. Two types of open prosthetic repairs are used for femoral hernias: a modification of Lichtenstein prosthetic repair,⁶ and plug or umbrella repair with infrainguinal approach.^{4,7} We herein present a mini-mesh repair without tension for femoral hernias by using open anterior approach.

2. Methods

2.1. Patient preparation

All three types of anaesthesia can be used for the technique described below. Local anaesthesia was preferred technique in all

cases here. Single dose antibiotic prophylaxis with intravenous 1 g cephazolin was given 15 min before the incision.

2.2. Surgical technique

Through an inguinal incision dissection is continued with an infra-inguinal approach to reveal femoral hernia. Aponeurosis of the external oblique muscle and the transversalis fascia is opened. Hernia sac is dissected completely and sent back into the preperitoneal space. Femoral canal should be exposed completely and clearly (Fig. 1). A round or oval shaped patch is prepared in 1.5–2.5 cm in diameter according to the size of the femoral canal. Mesh is secured to the Cooper’s ligament with 2/0 polypropylene suture. First two sutures are placed at the inferomedial and superomedial to the femoral vein. One inferior and one medial suture around the canal are adequate in most cases. One (or two) superior suture(s) is put to secure the mesh the caudal flap of the transversalis fascia (Fig. 2). Inguinal floor is then restored with continuous 2 or 4 layers suture lines with polypropylene suture material as in Shouldice technique.

3. Results

Eight femoral hernias in 8 patients (6 women and 2 men) were repaired with this new technique between 2010 and 2014. Mean age was 32 (range: 18–44). ASA classification varied from

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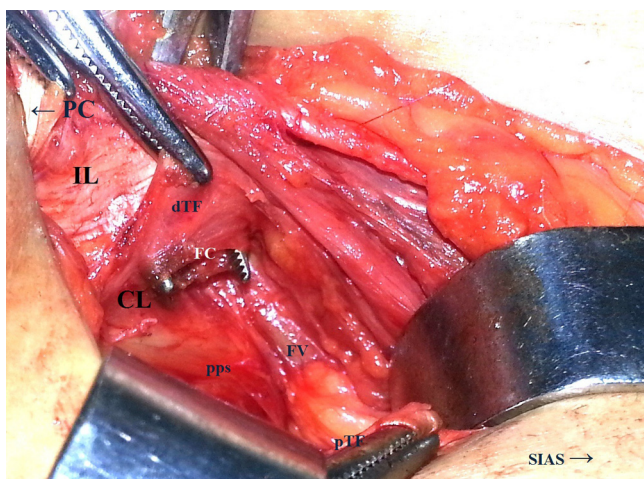


Fig. 1. Femoral canal is displayed by a open clamp before mesh placement.

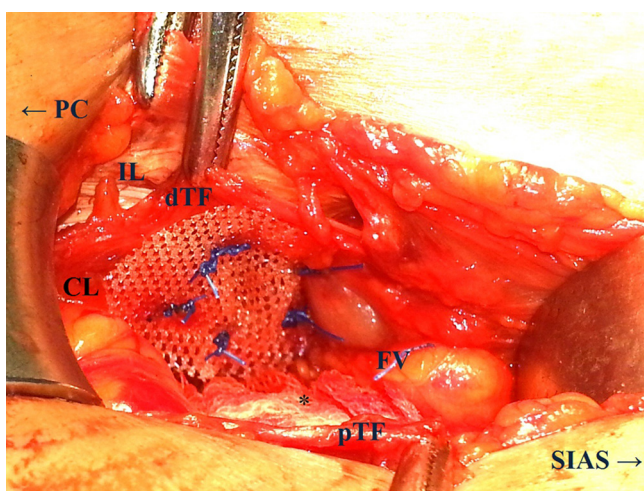


Fig. 2. Mini-mesh secured to cover the femoral canal. FC, femoral canal; FV, femoral vein; CL, Cooper ligament; IL, inguinal ligament; pps, preperitoneal space; dTF, distal flap of transversalis fascia; pTF, proximal flap of transversalis fascia; PC, pubic corner; SIAS, spina iliaca anterior superior. * Preperitoneal fat tissues are retracted with a sponge.

1 to 3. Patient satisfaction was very good in 7 cases. One patient complained of mild pain for 2 weeks postoperatively. One patient developed infrainguinal seroma (a painful lymph node was excised in this case; pathology report: reactive node displayed inflammation) over femoral fossa which resolved spontaneously within 2 weeks. A limited ecchymosis was observed in another patient. No surgical site infection was recorded. Patient satisfaction is very good. The complaints of discomfort and early postoperative pain that might be observed in some cases after traditional suture or plug repairs did not reported by any patients in this small series. Mean follow-up was 22.4 months (1–51 months). Four of the patients

were followed for longer than 2 years. No recurrence developed. No patients reported chronic pain.

4. Discussion

Femoral hernia is described as “the Bête Noire of Hernias” because of its nature and anatomy which is difficult to understand for the surgeons and tendency to recurrence.⁸ It occurs predominantly in females, where they make up to 75% of cases, with coincidence of inguinal hernia in 9% in females and 50% in males.⁹ Inguinal floor is often intact in female patients with strong transversalis fascia. Plug repair seems the easiest technique in those patients,^{3,10} but some major complications due to mesh migration have been reported.^{11–13} Also, plugs may often shrink to result in recurrence in hernias with large defects.¹¹

The patch used in modified Lichtenstein repair is 7 cm × 16 cm in size, and has a triangular extension from its lower edge which is sutured to the Cooper’s ligament, and the body of the mesh is sutured to the inguinal ligament.⁶ This is a confusing technique for many surgeons and has not gained popularity. Besides, a large piece of mesh is not necessary in the absence of a concurrent inguinal hernia.

The new technique described here was performed in a small series of patient with a low complication rate and a good patient satisfaction. The burden of foreign body is minimized. Although follow-up period is short for some patients in the series no recurrence developed.

5. Conclusion

The simple technique described in this paper can be a good alternative. It is totally problem-oriented, and the burden of prosthetic material is very limited. Patient satisfaction is very good. When a concurrent inguinal is met it can be cured with either Shouldice technique or anterior mesh placement.

Conflict of interest

The author declares no conflict of interest.

Funding

None.

Ethical approval

Diskapi Teaching and Research Hospital Ethical Committee has been approved this case for published as a case report.

The committee does not give a specific number of judgement for case reports, only for prospective clinical trials.

Author contribution

Single author.

Key learning points

- Femoral hernia is described as “the Bête Noire of Hernias” because of its nature and anatomy which is difficult to understand for the surgeons and tendency to recurrence.
- It is possible to cure a femoral hernia by using a mini-mesh with local anesthesia.
- Patient satisfaction is very good when a mini-mesh is used.

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